

## **I Claim:**

1. A device for instantly pre-heating dies uses an inductive heating coil to induct high cycle wave magnetism, said inductive heating coil is moved independently between a first and a second dies, and is disposed near die surfaces of  
5 said first and second dies, jog said inductive heating coil properly in order to let the high cycle wave magnetism takes effect on a die contact part, so that said die contact part can be pre-heated instantly.

10 2. A device for instantly pre-heating dies mainly comprises said first and second dies, said die contact part is disposed on said die surfaces of said first and second dies respectively, an inlet hole is disposed inside said die contact part, said first and second dies have to be pre-heated when  
15 processes injection forming, so that melted plastic can flow smoothly inside said die contact part to complete forming process;

Said inductive heating coil is an independent element separated from said first and second dies, which is a coil body  
20 in spiral shape to induct high cycle wave, its one end is fixed on a mechanical arm for moving in a pre-set route, when said first and second dies are separated, said inductive heating coil is moved and disposed between said die surfaces, so that high cycle wave magnetism can take effect on said die contact part  
25 and let said die contact part be pre-heated instantly, accordingly, pre-heating efficiency is enhanced, electricity is saved, and at the same time can ensure the melted plastic flow

smoothly inside said die contact part.

3. A device for pre-heating dies as claimed in Claim 1, said inductive heating coil could also be a flat piece or a spiral body, which is corresponding to the shape of said die contact part or to various concave or convex shape die contact part holes.

4. A device for pre-heating dies as claimed in Claim 3, said inductive heating coil could be in series or parallel arrangement in corresponding to said die contact part hole, when said inductive heating coil is moved between said die surfaces of said first and second dies, it is then placed near said die contact part hole at a proper position, can jog said inductive heating coil in four directions to achieve more evenly distributed pre-heating effect.

5. A device for pre-heating dies as claimed in Claim 1, said inductive heating coil having a plurality of ceramic rings disposed on it, in order to prevent said inductive heating coil from improper contact with said first and second dies to conduct electricity.

6. A device for pre-heating dies comprises said first and second dies and a sub-die disposed on said second die, said die contact part and said inlet hole are disposed on said die surfaces of said first, second and sub-dies, during injection forming, said die contact parts have to be pre-heated to let the melted plastic flow smoothly inside said die contact parts for forming, two inductive heating coils are independent elements separated from said first, second and sub-dies, said

inductive heating coils are coil bodies in spiral shape and can induct high cycle wave, and each of them is fixed on said mechanical arm respectively, which will then being moved in a pre-set route, one of said inductive heating coils is moved  
5 between said first die and said sub-die after said first die and said sub-die are separated, another said inductive heating coil is moved between said second die and said sub-die, so that high cycle wave magnetism can take effect on said die contact parts and make them be pre-heated instantly, accordingly,  
10 pre-heating efficiency is enhanced, electricity is saved, and can also ensure the melted plastic flow smoothly inside said die contact dies.

7. A device for pre-heating dies as claimed in Claim 6, said sub-die having a magnetism insulation layer disposed  
15 inside in order to prevent two said inductive heating coils to repel or attract each other, or to affect the movement of said mechanical arms.

8. A device for pre-heating dies as claimed in Claim 6, said inductive heating coils could be in flat shape or spiral  
20 shape, which is corresponding to the shape of said die contact parts or to various concave or convex shape die contact part hole.

9. A device for pre-heating dies as claimed in Claim 8, said inductive heating coils could be in series or parallel  
25 arrangement in corresponding to said die contact part hole, when said inductive heating coil is moved between said die surfaces of said first and second dies, it is then placed near

said die contact part hole at a proper position, can jog said inductive heating coils in four directions to achieve more evenly distributed pre-heating effect.

5        10. A device for pre-heating dies as claimed in Claim 1, said inductive heating coil having a plurality of ceramic rings disposed on it, in order to prevent said inductive heating coil from improper contact with said first and second dies to conduct electricity.

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